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"AQ Khan Network: Case Closed?"

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Testimony of

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AQ Khan Network: Case Closed?

Mr Chairman, good afternoon and thank you for giving me the opportunity to appear before the committee to discuss the nuclear supplier network headed by AQ Khan.

The story of how Pakistani nuclear scientist Abdul Qadeer Khan pilfered nuclear technology from Western Europe and helped propel Islamabad to becoming an atomic power is, by now, fairly well understood. But it is less well known that two years after President Bush said international investigators have "put an end to his criminal enterprise", it appears that portions of the network remain intact and possibly in operation.

I would like to focus my comments today on the question of whether Khan's associates—who stretched their operations from Asia to the Middle East, Africa, and Europe—are still in business. Their network was first created to feed Pakistan's nuclear program, and later, was used by Khan to feed foreign clients including Iran, Libya, and North Korea.

My testimony is based on interviews with those that have firsthand knowledge of the issue—the officials in over a dozen countries that are investigating the network as well as some of Khan's associates and their attorneys that have been prosecuted or are under investigation.

Although AQ Khan is under house arrest in Pakistan and many of his senior associates in the illicit smuggling network are currently in jail or under government control, the transfer of nuclear goods and services continues to be available to those with the will and resources to pay. These activities, driven by the continued demand and the active procurement attempts of at least Iran and Pakistan, encompass some individuals and companies that once supplied Khan's deals. But they also include new or different nuclear technology brokers, many of whom use the same or similar methods to evade international export controls intended to stop the flow of this critical technology.

The network was first established by Khan to help feed Pakistan's then nascent nuclear weapons program, and later used to supply external customers. It was not the first such network to sell nuclear goods and in fact many of the same European middlemen had been implicated in providing weapons technology to Iraq's pre-1991 Gulf War nuclear program. A few of these middlemen may have even sold nuclear goods to Pakistan's rival and neighbor in South Asia, India.

Still, the network that eventually evolved under Khan was significantly different from previous suppliers in that it provided one-stop shopping to would be customers—offering everything from the machines needed to create fissile material to the expertise to help run the facilities. And, in at least Libya's case, a nuclear weapon design was provided as well.

Also different was the audacious manner in which Khan operated. It went to such extremes that he had glossy brochures created to highlight the network's wares and had his staff distribute them widely to potential customers. I was handed an original copy of these brochures at a defense exhibition Pakistan hosted in November 2000 in the port city of Karachi by representatives of Khan Research Laboratories (KRL), which had a booth at the show. The KRL employees assured me that everything listed in the brochures--which include virtually all of the components necessary to create a uranium enrichment plant, as well as support services to maintain and operate it--were available.

How did it happen?

The Khan network made full use of the conveniences of the era: front companies in pliant jurisdictions, flexible communications and travel; swiftness and anonymity of international finance. Most of the network participants were market savvy rather than geopolitically inspired, and the culprits used the loopholes of the new global marketplace to sidestep international restrictions that were often too cumbersome or unwieldy to keep up with changing tactics.

The network, for example, exploited the vulnerabilities of globalization by end-running around national export controls. This was possible, in part, because the system in place to monitor international nuclear trade is not comprehensive. The existing measures also suffer from insufficient participation and lack of enforcement in many countries. The increasing spread of industrial capacity that is occurring today will only make this challenge more difficult. It is sophisticated engineering abilities and industrial capacity such as precision machine tooling, rather than the basic science of nuclear processes, that are the bottlenecks to a successful nuclear development program over the long term.

Ongoing activities

Today, Iran has rebuilt a network to supply prohibited goods for its nuclear and ballistic missile programs, principally from Europe and Russian firms and has included some of the Khan middlemen in the process. Tehran's new network is exploiting many of the same weaknesses and loopholes of the system that Khan's associates used, and may be a response to fill the gap after Khan was removed as a primary supplier.

German national police, for example, in March raided dozens of business locations suspected of being connected with illicit sales of nuclear-related goods to Iran in 2004 and 2005. In all, German authorities believe Iran has used as many as 100 front companies in Germany to help Tehran buy and illegally export a range of defense goods—from military items to nuclear technology. German authorities are prosecuting a number of other cases against those believed to have funneled nuclear goods and ballistic missile technology to Iran, as well as Libya and others.

Some of these other cases are part of Pakistani attempts to rebuild a network for supplying the needs of its own nuclear weapons program—which for years has relied on

illicitly bought high-technology components. This heightened procurement activity by Pakistani agents has been ongoing since at least 2004.

What troubles European investigators, they say, is that Pakistan appears to be buying more nuclear bits and pieces than they need. Moreover, because many of the procurement agents had worked for Khan previously, there are linkages to them having been used to buy nuclear wares for Khan's foreign clients.

An alternate explanation, offered privately by several Pakistani officials, is that the newfound nuclear procurement push could be part of an effort to quietly rebuild parts of Islamabad's own uranium enrichment program at KRL in Kahuta if damage was done to the facility in last October's devastating earthquake. According to a letter written by former Pakistani President Ghulam Ishaq Khan, on at least three past occasions in the 1980s and 1990s, the Kahuta facility was forced to shutdown due to equipment damage and destruction cause by earthquakes. A similar occurrence may have happened last October.

These activities are critical, inspectors in Europe and elsewhere say, because they have evidence that at least parts of the Khan network have remained in operation long after it was publicly said to have been broken in 2002. Swiss police, for example, say they interrupted a plot in March 2004 to illegally ship 60 tons of specialized aluminum tubes—used for building parts of a centrifuge cascade to enrich uranium—from a Russian supplier through intermediaries in Western Europe and Dubai to Pakistan. Although entities involved in the Pakistani nuclear weapons program were the intended destination, it is possible these supplies could have ultimately been sent to Khan network customers.

The only reason the deal was discovered and stopped, Swiss authorities noted, is that the shippers were sloppy enough to include the name of Hank Slebos on the shipping bill. Slebos, who late last year was convicted of sending nuclear-related goods to Pakistan, had been under surveillance by Dutch intelligence officials for years and they tipped off the Swiss authorities. However, the Swiss police said, other parties to the deal dropped Slebos from the transaction and tried again using a middleman in the UK that was not previously known to be a Khan associate. They attempted to ship the pipes from Russia to Pakistan through Dubai, but the goods were seized in the UAE by government authorities.

This incident is just one illustration of what many inspectors working on the Khan affair believe—that parts of his former network remain intact, operating either on their own or with other similar networks built by national governments such as Iran.

In this light, it is troubling that the Pakistani government has publicly stated that investigations into the Khan affair are over. This is clearly not a view held by the rest of the international community. Pakistan should be urged to cooperate with international inspectors to resolve a number of major outstanding issues. They include:

--Did Khan provide more nuclear assistance to Iran than Tehran has declared. That technology could be the foundations of a secret atomic bomb project. Khan's deputy in the network, Buhary Seyed Abu Tahir, has told interrogators that Khan likely supplied three samples of the more advanced P-2 type uranium enrichment centrifuge to Iran. However, to date Tehran has continued to insist it received only drawings for the machines and the centrifuges have not been found. Tahir noted that the provision of such complete sample centrifuges was a standard procedure from Khan, and the pattern matches events in Libya. Based on these and other discrepancies, as well as Tehran's repeated attempts to cover up its P-2 program, there is reason to suspect that Iran has a secret enrichment project based on the P-2. These concerns are exacerbated by the recent statement of Iranian President Mahmoud Ahmadinejad, who said Tehran is "presently conducting research" on the P-2 despite earlier Iranian claims that efforts to develop the machines had been scrapped in 2003. However, neither the US nor other international allies know of any physical locations for the project.

--Did Khan provide Iran and others with nuclear weapons designs? Investigators from the International Atomic Energy Agency (IAEA) discovered key documents in Iran that specifically point to activities that only have uses for building nuclear weapons. The documents, which Iran claims were provided by the Khan network, outline detailed steps on how to make the precisely machine hemispheres of uranium metal needed for a nuclear weapon. Such metallic spheres do not have any other known purposes. Iran only recently disclosed the documents and may have done so accidentally, raising concerns that Khan may have provided additional weaponization assistance as well. He had provided Libya designs for a nuclear warhead and investigators are wondering if Iran similarly received a copy they are still hiding. Iran denies receiving such designs.

--Did Khan supply any other country beyond North Korea, Libya and Iran?

A Hidden Nuclear Customer?

One of the key unsolved questions that international investigators are still wrestling with is what happened to a substantial amount of nuclear equipment—including key centrifuge parts such as rotors, pumps and ring magnets—that records show should have been sent to Libya but never arrived there. The missing items were paid and accounted for by Libya, but never received by Tripoli and only a few parts have since been found.

Explanations for the missing nuclear goods range from another still unknown buyer, to additional shipments to Iran and/or North Korea. The goods could also have been placed into storage or even destroyed by participants in the network that were scared-off after a number of associates were arrested or after they suspected they were being watched by government authorities. IAEA investigators believe some centrifuge parts will ultimately be found warehoused in Dubai, which has become an important hub of their investigation.

But the possibility of additional, yet to be revealed customers has investigators worried. Although little hard evidence of such a hidden customer has been found, those named as possibilities include Brazil, Egypt, India, Saudi Arabia and Syria.

As a recent US intelligence community report to congress notes, Pakistani officials have "confirmation" of claims that Khan offered Syria nuclear goods. Syrian representatives made initial overtures to Khan in the 1980s, but he is believed to have rejected their offers at that time. However, Khan is believed to have made at least one other trip to Syria in the late 1990s in addition to other contacts with what one of the investigators called "all of the right people" where he is seeking Syria as a customer. Investigators are concerned a deal might have been struck but the publicly available evidence regarding whether these meetings ever lead to anything is scant. Interestingly, several Israeli officials have recently told me they investigated the claims and are not overly concerned, also suggesting the evidence is weak.

Saudi Arabia has also been named by some officials as a possible customer in the Khan network, due in part to a large number of trips to the country undertaken by the Pakistani scientist and his top associates. Moreover, there have been a number of meetings between senior Saudi officials and their Pakistani counterparts on strategic security matters and the issue of nuclear weapons has been raised. One example, a trip by Saudi Prince Sultan bin Abdul Aziz to KRL, has received a lot of attention and has been cited by a number of senior, primarily Israeli, as evidence that Riyadh is considering a nuclear weapons program of some sort.

Those suspicions were amplified in 2005 when the Saudi government applied for, and was granted, an exemption to its safeguards obligation by the IAEA Board of Governors due to the country's lack of nuclear facilities and activities. Despite substantial Western pressure, the Saudis requested to be place under the small quantities protocol—a loop hole in the safeguards regime that effectively allows countries with no or extremely limited nuclear programs to avoid inspections—submitting just a declaration of their activities and holdings instead. Under the terms, the IAEA's inspection powers to investigate in Saudi Arabia are limited, leaving inspections there to be more of an honor system than one with real teeth. Seventy five countries have been granted the exemption, but none are considered a proliferation risk due to limited technical and financial abilities to run a clandestine nuclear program.

However, with very limited technical or industrial capacity to rely on, an effective clandestine Saudi nuclear weapons program appears a very remote possibility. A more likely scenario is an arrangement with Pakistan whereby Riyadh is afforded some sort of nuclear umbrella in the event that Iran gets the bomb. If true, the umbrella could entail a straight transfer to Saudi soil of nuclear weapons still under Pakistani military control or, more likely, a form of security guarantee not unlike those provided by the US to many allies during the Cold War.

Israeli officials have also talked of seeing "worrying signs" of nuclear ambitions in Algeria and Egypt, although they note that the evidence is highly circumstantial and any

programs based on uranium enrichment would be in their infancy and are likely early steps to hedge against the possibility that Iran could go nuclear. Khan had ties to Egypt through nuclear-related conferences he hosted and parts of the Egyptian government outside of the Atomic Energy Commission have published a number of scientific papers suggesting they are thinking about hedging in the event they want to commence a nuclear weapons project in the future.

Conclusions

Although the arrests of AQ Khan, Tahir and several other top members of their nuclear smuggling network have eliminated a major source of atomic goods to would-be proliferators, it has not ended the trade in nuclear wares. In fact, evidence suggests the Khan network was run as more of a decentralized white-collar criminal group than a top-down organization, with the implication that participants in the network could remain undiscovered and fully able to operate again. As one senior international investigator recently told me about what is know to date: "there is no reason to believe this is the whole story".

One theory gaining credence and support among the investigators is that the parts of the network yet to be uncovered are more senior than previously believed. The simplicity in which the current predominant view explains how the Khan network easily shuffled closely guarded nuclear goods to Libya, Iran and North Korea is not reasonable, proponents of this alternate theory say, leading them to believe that more powerful forces were at work behind the scenes.

On the ground, the recently illicit procurement push by Iranian agents and to a lesser degree Pakistani ones suggests such a reconfiguration of suppliers is occurring, with the result that illicit trade in nuclear goods continues to be available for those with the means and desire to buy.

However, the good news is that the new suppliers are far from the one-stop-shopping Khan offered and insufficient by themselves for moving a nuclear weapons program very far forward. Much of the material seized and investigated in Germany and elsewhere, for example, involves basic materials and dual-used goods, not complete centrifuge designs, machines, or drawings.

Still, the equipment discovered missing after Libya began cooperating with investigators, and the possibility there could be additional unknown buyers for the nuclear goods, does raise serious concerns.

More work needs to be done to clarify what happened to this material and to answer other important unresolved questions. Such investigations will doubtlessly require international cooperation.

Finally, one positive development that has begun to take shape in the past few months is the cooperation several Khan associates have provided investigators, possibly including

future testimony against their fellow culprits. Cooperation from these insiders may, ultimately, help reveal yet to be discovered treads of the network and untangle the maze of what happened to the missing centrifuge equipment.